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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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02/19/2002

Wolfgang Scheibe

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EXAMINER

BOECKMANN, JASON J

ART UNIT

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3752

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DELIVERY MODE

05/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/049,834	Applicant(s) SCHEIBE ET AL.	
	Examiner Jason J. Boeckmann	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-37 are rejected, as best understood, under 35 U.S.C. 103(a) as being unpatentable over Baumgartner et al. (6,161,813), In view of Kilgore et al. (5,636,827).

Baumgartner et al. shows a valve comprising: an opening (the path below element 25) having a sealing surface (where element 25 touches the valve seat); a stop (the upper surface of element 54) displaced a distance from the opening; and an electromagnetic control valve including: a valve actuator (139, 127, 25) having an opening position (up) and a closing position (down), the valve actuator including: an actuator sealing surface (25) that engages the sealing surface of the opening when the valve actuator is at the closing position, an actuator stop surface (the bottom surface of element 139) larger than the sealing surface that engages the stop when the valve actuator is at the closing position, and a valve rod (127) disposed between the actuator sealing surface and the actuator stop surface. It appears from figure 3 that the valve rod (127) has a length that is greater by an excess length than a distance between the passages opening sealing surface and the opposing stop surface of the control valve.

Baumgartner et al. however fails to specifically disclose that when the valve actuator is at the closing position, the valve rod is compressed to a length that is shorter by the excess length than a length of the valve rod when the valve actuator is at the opening position, or that the excess length is taken up by the elastic deformation of the valve rod.

However, Kilgore et al. shows an electromagnetic control valve including a valve rod (34) having a sealing surface (the bottom of the rod). The valve rod of Kilgore et al. being elastically deformable in the direction along the length of the rod and therefore is inherently longer than required so as to elastically deform, or become shorter, when the valve is in the closed position (column 2, lines 55-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to make the valve rod (127) of Baumgartner et al.'s invention elastically deformable and slightly longer than the required length, just as the valve rod of the valve of Kilgore et al., so that the excess length is taken up by elastic deformation of the valve rod. This modification would allow for the kinetic energy of the valve rod to be transformed into strain energy and therefore dampen the closing force of the valve rod, as taught by Kilgore et al. (column 2, lines 55-65).

Regarding claims 2 and 22, the stop surface of the actuator is significantly larger than the sealing surface (see Fig. 3).

Regarding claims 3, 4, 23 and 24 the valve actuator is a one-part valve rod and it contains a valve body which touches the front face of the valve rod and contains the sealing surface of the actuator (25).

Regarding claims 5 and 25, the valve body is constructed as a sphere, which interacts with the opening for the passage of fluid, forming a seal (See Fig. 3).

Regarding claims 6 and 26, the sealing surface of the actuator (25) is the front face of the valve rod.

Regarding claims 7, 9, the valve actuator (139) is mushroom-shaped, the stem of the mushroom forming the valve rod and the stop surface of the actuator being an annular collar, concentrically surrounding the valve rod in the region of the mushroom cap (24) (see Fig. 3).

Regarding claim 8, the valve actuator is divided by a dividing joint into an actuator stop (near 24), having the stop surface of the actuator, and a valve rod, in operative connection with the sealing surface and the stop of the actuator.

Regarding claims 10, 11, 27 and 28, the valve rod is guided axially movably in at least one guide bushing (134) and is disposed at a small distance from the sealing surface of the actuator (see Fig. 3).

Regarding claims 13 and 30 the sealing surface is formed in the end face of a disk-shaped insert part (the valve seat) (see Fig. 3) and adjoins the control pressure space on the side averted from the sealing surface.

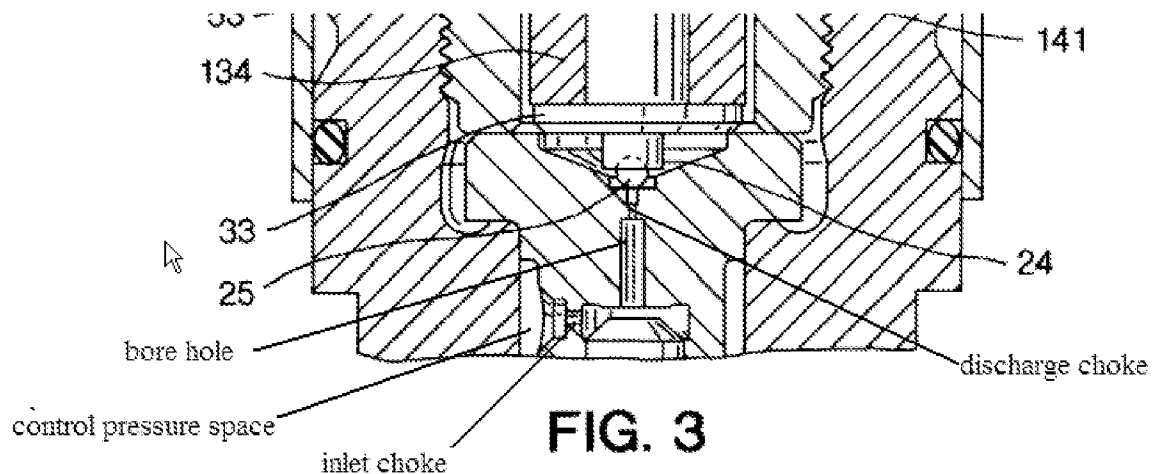
Regarding claims 12 and 29, it is noted that the valve of Baumgartner et al. as modified by Kilgore et al. does not specifically disclose that the length of the valve rod is an integer multiple of its diameter.

However, it would have been obvious to one with ordinary skill in the art at the time the invention was made to make the length of the valve rod is an integer multiple of its diameter since our reviewing courts have held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984).

Regarding claims 14-19, and 31-37 the insert part (also forms a stop for the valve needle) is formed in two parts with a first part, which contains an opening for the passage fluid and a discharge or outlet choke (see examiners marked up figure 3) and a second part at the control pressure space side, with a bore hole (see examiners marked up figure 3) which connects the control pressure space (see examiners marked up figure 3) with an opening for the passage of fluid. The second part contains an inlet choke (see examiners marked up figure 3) near the bore hole (see examiners marked up figure 3). The pressure space is connected with an inlet choke and the rear end of the valve needle (see examiners marked up figure 3) averted from the nozzle needle

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seat surface lies in the control pressure space. The pressure insert part also including an inlet choke and an outlet or discharge choke (see figure below).



Examiner's Marked Up Figure #3

Response to Arguments

Applicant's arguments filed 2/3/2009 have been fully considered but they are not persuasive.

Regarding the applicant's remarks concerning the combination of Baumgartner et al. as modified by Kilgore et al., the applicant argues that neither reference teaches a valve rod having an excess length and the corporation with one end of the valve rod with the sealing surface and the other end of the valve rod with a stop surface, and that the length of the valve rod shortens by an excess length. However, the examiner points out that Baumgartner discloses a valve rod that has a length greater than a distance between the passage opening sealing surface and the opposing stop surface, (see

figure 3) and Kilgore et al. teaches a valve rod that is axially compressible. Therefore, with the combination of the two references above, all elements of the claims are met.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the excess length of the valve rod and the corporation of one end of the valve rod with the sealing surface and the other end of the valve rod with the stop surface, so that one end of the rod provides the sealing function while the opposite end provides the stopping of the rod and the associated dampening function.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is noted that the claims do not require an opposite end of the valve rod to cooperate with the stop surface. Additionally, according to the claims, it is noted that the length of the valve rod only has to be longer than "a distance" between the passage opening sealing surface and the opposing stop surface, it doesn't require the length to be greater than "the distance" between the passage opening sealing surface and the opposing stop surface,

Regarding the applicant's arguments concerning claim 16, it is noted that the sealing surface is formed in the end face of a disk shaped insert part, the first part of the insert is disc shaped. Secondly, the insert part does include an inlet choke and an outlet choke, see figure 3 above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571)272-2708. The examiner can normally be reached on 8:00- 5:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. J. B./
Examiner, Art Unit 3752
5/11/2009